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BALLISTIC SYSTEMS


# DEEP WATCHER

"An Intelligent Security Shield
Designed to Protect the
World’s Forests"

# Main Causes of Forest Fires

## Human-Caused Factors (Most Common)

**Picnic and Campfires**
Unattended barbecues, campfires, or embers can quickly spread to the forest with the help of the wind.

**Cigarette Butts**
Unextinguished cigarette butts thrown from car windows or into forested areas can ignite dry grass.

**Stubble Burning**
Fires set to clear agricultural fields can quickly grow out of control and spread to nearby forests.

**Deliberate Arson**
Some individuals may intentionally set forests on fire for profit, revenge, or political motives.

**Glass Bottles and Litter**
Glass fragments that reflect sunlight like a magnifying glass can ignite dry leaves.

**Power Transmission Lines**
Sparks generated during welding, grinding, or maintenance work in forested areas can start fires.

## Natural Causes (Less Common but Dangerous)

**Lightning Strikes**
Especially during hot and dry summer conditions, lightning strikes can ignite forest fires.

**Volcanic Activity**
This is possible in volcanic regions.

**Extreme Drought and Wind**
Even without a spark, environmental stressors can significantly accelerate the spread of wildfires.

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# 1. LET'S START WITH THE FACTS

- **"A single spark is enough... to threaten millions of hectares of forest, billions of living creatures, and the future of our planet."**
- **Over the past 20 years, an average of 340 million hectares of land have been affected annually by wildfires around the world.**

  (FAO – Global Forest Resources Assessment)
- **In 2023 alone, more than 100,000 wildfires were recorded in the Amazon Rainforest.**

  (INPE – Brazilian Space Agency)
- Wildfires threaten not only nature, but also the **global climate, infrastructure, energy networks, and human lives**.
- **Delays in response and gaps in surveillance systems** continue to cause uncontrollable spread and severe losses.

# 2. WEAKNESSES OF TRADITIONAL APPROACHES

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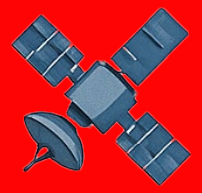
| |  SATELLITE |  WATCHTOWER |  TRADITIONAL CAMERAS |  DEEP WATCHERS |
|---|---|---|---|---|
| **DETECTION TIME** | Hours | Minutes | Minutes | Instant |
| **FIELD OF VIEW** | Wide | Limited | Blind Spots Exist | 360° Coverage |
| **FALSE ALARM RISK** | Low Resolution | High | Medium-High | 90% Less False Alarms |
| **DURABILITY** | Weather-Resistant | High Night/Day Difference | Requires Maintenance | Resistant to All Weather Conditions |

⚠ **These systems only work *after* the fire breaks out. They are not preventive.**

✅ **Operates 24/7 continuously and reliably.**

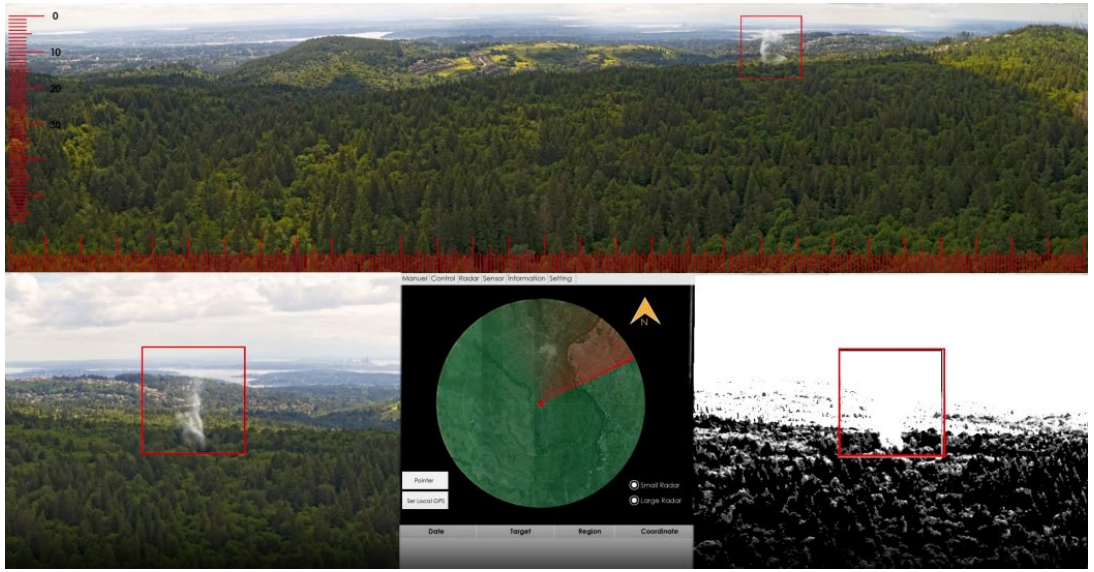
# 3. NEXT-GENERATION SOLUTION: DEEP WATCHER

Developed by **Canovate Ballistic**, Deep Watcher is an AI-powered, multi-layered early wildfire detection system.

***"A digital guardian that sees before fire starts, warns before danger approaches, and stands watch 24/7."***


- **Real-time analysis** with **24/7 thermal and daylight cameras**, powered by CNN-based **deep learning algorithms**
- **Dual verification** (thermal + visual) for **minimum false alarms**
- **GPS-based real-time location notification** and recording
- Detection of sabotage, unauthorized access, and motion
- **Maximum durability** regardless of weather conditions

# 4. ARTIFICIAL INTELLIGENCE TECHNOLOGY





## AI Module::

**Convolutional Neural Networks (CNN):**
Detects smoke, flames, and heat waves in the image

**Background Extraction:**
Distinguishes between moving objects and static areas

**Thermal Analysis:**
Identifies abnormal heat distribution and sparks

**Deep Reinforcement Learning:**
A self-evolving intelligent system

## Data Integration:

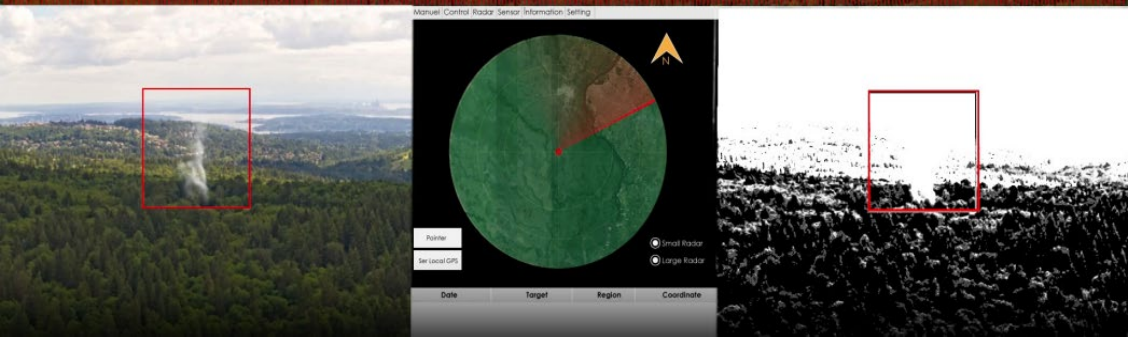
**Meteorological Sensors:**
Models fire risk using temperature, humidity, and wind direction

**Soil Sensors:**
Generates localized fire risk maps

**Cloud Database:**
Central hub where all data is collected and processed

# 5. USER EXPERIENCE







**Central Monitoring Panel**
All cameras, regions, and alarm points are displayed on a single screen.
In case of an alarm, the **image, video, timestamp, and GPS location** appear instantly.

**Mobile Notification System**
SMS, app notifications, or voice alerts are sent to response teams.

**Automatic Alarm Protocol**
Simultaneous alerts are triggered for the relevant station, fire department, and authorities.

# 6. APPLICATION AREAS & TARGET GROUPS


**International Governmental Institutions**

- **FAO** (Food and Agriculture Organization – UN)
- **UNDRR** (UN Office for Disaster Risk Reduction)
- **UNEP** (United Nations Environment Programme)
- **US Forest Service / CAL FIRE** (USA)
- **EU Civil Protection Mechanism**
- **NASA Earth Science Division**

**Private Sector**

- **Energy Companies** (Shell, TotalEnergies, BP, ExxonMobil)
- **Pipeline Operators and Refineries**
- **Mining, Hydroelectric Dams, and Industrial Zones**
- **Factories and critical infrastructure near forests**

**NGOs & Institutional Partnerships**

- **WWF, Greenpeace, Rainforest Alliance**
- **Amazon Rainforest Foundation, Global Forest Watch**
- **Data partners for ESG & Sustainability Reports**

# 7. TECHNICAL SPECIFICATIONS

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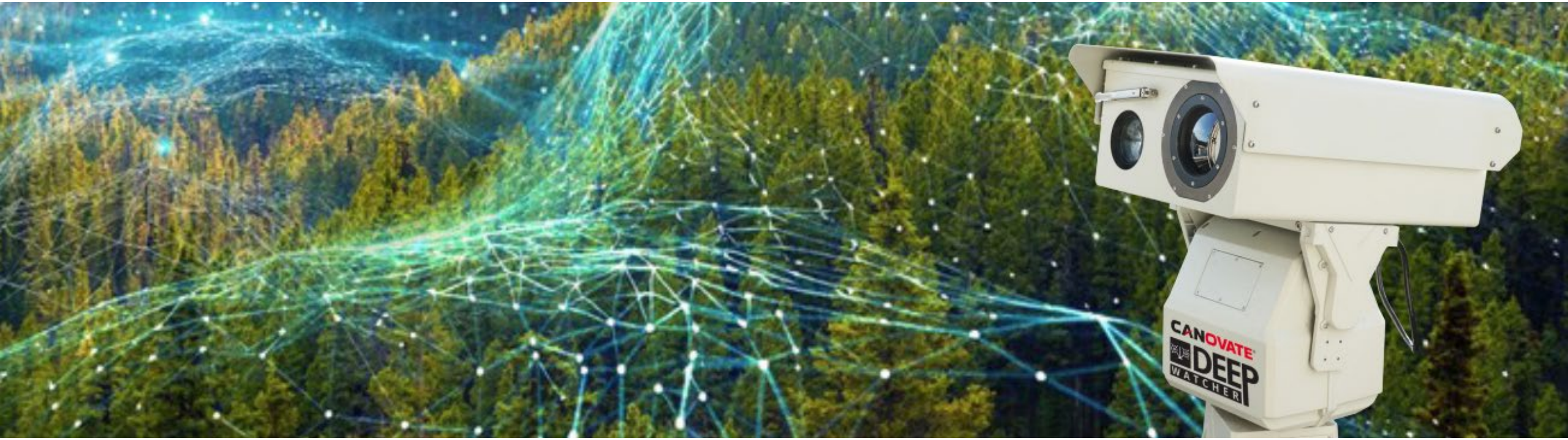
| Feature | Detail |
|---|---|
| **Camera Resolution** | 4K UHD + Thermal Imaging |
| **Field of View** | 360° horizontal / 90° vertical |
| **Detection Range** | Up to 20 km for fire – up to 3 km for motion |
| **Alarm Response Time** | Between 12–28 seconds |
| **Protection Rating** | IP66 – Dust and Water Resistant |
| **Communication** | GSM / LTE / Satellite / Wi-Fi |
| **Power Supply** | Grid Power + Solar Panel Option + UPS Backup |

# 8. PROJECT PROPOSAL & PHASES



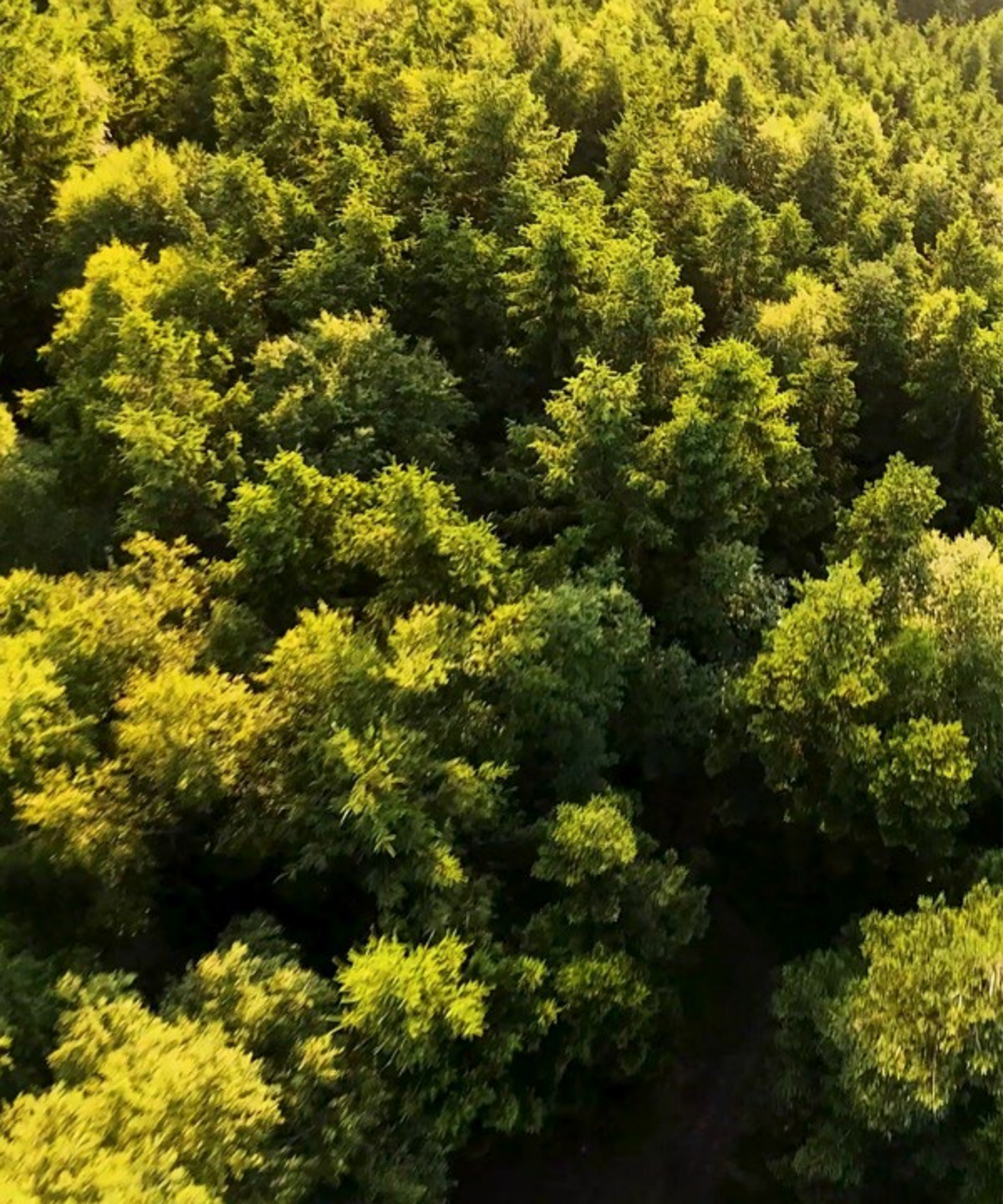

Goal: **Global Wildfire Early Detection Network**

**Pilot Zone:** 3 countries, 15 towers, 45 radar modules

**Training & Support:** On-site teams and regional monitoring center setup

**Data Integration:** API integration with national and international disaster platforms (e.g. NASA FIRMS, EU Copernicus, UNDRR)

**Expansion Plan:** Coverage in 25+ countries and 500+ towers within 2 years



## 9. BENEFITS

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- 80% of wildfires can be detected before they break out
- Response time is reduced by 65%
- Annual economic losses are reduced by millions of dollars
- Natural habitats are preserved
- Strategic infrastructures (communication, energy, defense) are secured

***"Deep Watcher is not just a product—it's a new bond we've built with nature. An artificial intelligence that sees danger in advance and takes action before it's too late."***

# Protecting the Future Starts Now

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